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Improving Social Impact Bonds: Assessing Alternative Financial Models to Scale Pay-for-Success

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Improving Social Impact Bonds: Assessing Alternative Financial Models to Scale Pay-for-Success

Policy Analysis Exercise



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1. Executive Summary

Social Impact Bonds (SIBs) represent a new and innovative tool for promoting social welfare. If implemented correctly, they could represent a new frontier for public-private partnerships and philanthropic-private contracts. The limitations on the private provisioning of social welfare programs are decreasing, and recent technology allows for more accurate cost-benefit analysis and the measurement of more meaningful performance indicators. Taken together, these factors increase the technical feasibility of SIBs.

By incorporating the private sector into the promotion of social welfare, social programs stand to benefit from the market-driven efficiencies gained by incorporating a profit motive. Society stands to benefit in return, through both the more effective provision of social services and the cost savings realized by government entities. This situation is made possible when we take an “outcomes-oriented” approach to social programs, where the goal of government is not to control the method by which services are provided, but rather the actual results of such interventions. A results-focused approach has created space for experimentation in the provision of social services and created opportunities for all stakeholders (private investors, governments, philanthropic organizations, non-profits, target populations, and intermediaries) to benefit from this new investment frontier.

This policy analysis describes in detail the risks and barriers that could prevent the growth of the SIB market and hinder its adoption as a useful means of providing social services. We identify eight key investor risks:

- **Execution**
- **Intermediary**
- **Government non-payment**

- **Systemic**
- **Intervention model**
- **Evaluation**
- **Liquidity**
- **Reputation**

and four barriers to scale:

- **Transaction costs**
- **Availability of capital**
- **Deal flow availability**
- **Availability of service providers**

All of the above risks and barriers must be addressed in order for the SIB market to grow. However, through this analysis we have determined that transaction costs are the greatest impediment to success. These costs are mainly attributed to the customization inherent in the current SIB market, whereby each SIB project must be individually structured, negotiated, and managed. The following analysis examines three alternative financial models with properties that decrease transaction costs, including bundled Clean Development Mechanisms (CDM), structured financial instruments, and social impact private equity funds, to see which elements of their construction could be useful in scaling the SIB market.

Through our analysis, we have determined that intermediaries and policymakers should attempt to scale the SIB market using a private equity intermediary model. This model requires the fewest number of regulatory and policy changes to be successful and results in the organic growth of the SIB market. Financial investors stand to gain through effective risk diversification, and intermediaries benefit as they increase their internal capacity to evaluate the risks in implementing social programs. This growth in assessment capabilities decreases the dependency

on governments and other types of specialized intermediaries, thereby decreasing the overall transaction costs of SIB contract construction, origination, and implementation.

2. Introduction

The Social Impact Bond (SIB) is a new and innovative model that leverages market-driven efficiencies to provide social services. Despite widespread enthusiasm for SIBs, the question of how the market can expand remains open. Examining existing financial instruments can provide insights into how SIBs can scale.

A SIB is a contractual arrangement between an entity with a mandate to promote social welfare (e.g., governments, development banks, and philanthropic organizations) and a private sector investor that will finance social service interventions up front in exchange for future payouts. The amount of the payout level is linked to the resulting effectiveness of the social service.

The SIB model is known by multiple names, which has led to some confusion about what SIBs are. They have alternately been referred to as developmental impact bonds (DIBs), performance-based contracts, pay-for-performance (p4p), pay-for-outcomes, outcomes financing, pay-for-success, and smart contracts.

While the name of the model can change in a given context, the underlying principle is the same. In the most common SIB structure, government-to-private-sector contract, the potential payment is often determined as a percentage of the expected cost savings the government will see from the decline in social services usage. As an example, many SIBs are targeted toward decreasing recidivism rates due to the costly nature of incarceration. The two payment styles used either pay for improvements at a population level (Figure 1) or on a per-individual-served basis, called a rate-card model (Figure 2). Population level payments are considered to have a more rigorous study design, meaning that they contain a control group of individuals who did not receive the

social service but are otherwise identical to those who did. This allows for a direct comparison of whether the service provider’s efforts were the reason for the improvement.

The New York City Social Impact Bond

Table ES.1

Summary of Payment Terms by Impact

Recidivism Reduction Rate	Department of Correction Success Payment (\$)	Net Projected Taxpayer Savings (\$)
≥20.0%	11,712,000	20,500,000
≥16.0%	10,944,000	11,700,000
≥13.0%	10,368,000	7,200,000
≥12.5%	10,272,000	6,400,000
≥12.0%	10,176,000	5,600,000
≥11.0%	10,080,000	1,700,000
≥10.0%	9,600,000	<1,000,000
≥8.5%	4,800,000	<1,000,000

Figure 1: Example of SIB payment agreement based on population improvements
 Source: Financing Promising Evidence-Based Programs: Early Lessons from the New York City Social Impact Bond. http://www.mdrc.org/sites/default/files/Financing_Promising_Evidence-Based_Programs_ES.pdf

OUTCOME	PAYMENT PER INDIVIDUAL
Improved behavior at school (Measured by a letter from a teacher)	£800
Stop persistent truancy (absent for over 10% of school days per year)	£1,300
Achievement of First National Qualifications Framework (NQF) Level 2 qualification	£2,200
Achievement of First NQF Level 1 qualification	£700
Entry into first employment including a training element	£2,600
Entry into sustained employment	£1,000
Completion of first NQL Level 3 training/ vocational qualifications	£3,300
Successful completion of an ESOL course	£1,200
Entry into education at NQF level 4	£2,000

Figure 2: Example of SIB payment agreement based on a per-individual basis for improving educational attainment for homeless youth in the U.K.
 Source: The Potential and Limitations of Impact Bonds: Lessons from the First Five Years of Experience Worldwide, Brookings Institute, 2015.

The potential of the SIB model to provide results-focused social services using market-driven efficiency has been met with broad approval across the political spectrum. The first SIB was

initially conceived in the United Kingdom under Prime Minister Gordon Brown's center-left Labor party and was implemented by David Cameron's center-right Conservative party in 2010.¹ In the United States, legislation designed to promote SIB development has bipartisan sponsors in both houses of Congress. S. 1089, the Social Impact Partnership Act, is sponsored by Senators Orin Hatch (R-Utah) and Michael Bennet (D-Col.); its counterpart H.R. 1336 is sponsored by House Representatives Todd Young (R-Ind.) and John Delaney (D-Md.)

The structure of a SIB can vary from contract to contract. The Harvard Kennedy School's Social Impact Bond Technical Assistance Lab considers the basic structure to require the participation of four entities (Figure 3):

1. **Government (outcomes payer)** – The outcomes payer is the entity that both sets the pay scale and defines what outcomes will be measured. So far, most SIB contracts have involved programs targeting criminal justice, education, employment, and welfare (e.g., decreasing homelessness).
2. **Private funders (up-front capital)** – Private funders are expected to put up the initial capital needed for the intermediary and service provider to implement an intervention/program expected to be effective at achieving the outcomes agreed upon in the contract.
3. **Intermediary (clearinghouse & organizer)** – There are multiple roles for intermediaries to play, and in some SIB constructions these roles are provided by separate entities. Intermediaries are needed to amass funds from investors, vet service providers and

¹ Liang, M., B. Mansberger, and A.C. Spieler, An overview of social impact bonds. *Journal of International Business & Law*, 2014. 13(2): p. 267-281.

supply them with working capital, and contribute performance management expertise to ensure the SIB contract's success.

4. **Service providers (implementer)** – The service provider is the entity responsible for executing either their own social program or a social program provided to them. They are overseen by an intermediary tasked with data acquisition and program evaluation (to analyze the service provider's ongoing performance).

Social Impact Bond Structure

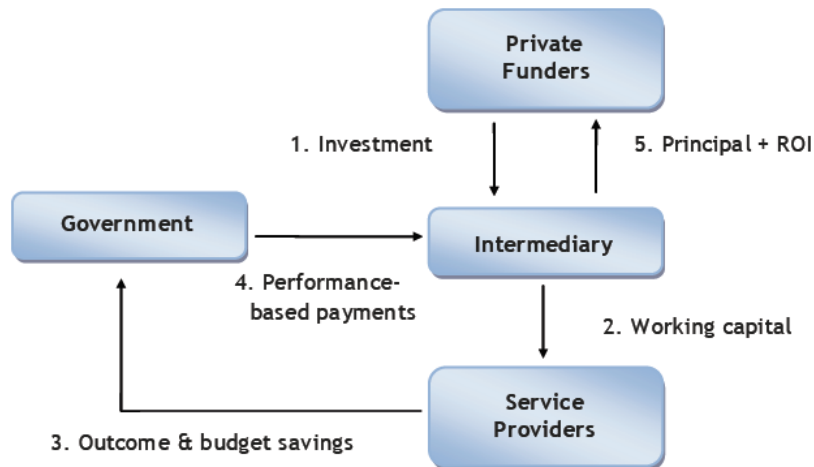


Figure 3: Social Impact Bond Structure.

Source: Social Impact Bonds: A Guide for State and Local Governments, 2013.

The design and implementation of a SIB contract has proven complex in practice. The first SIB contract signed in the U.S. involved coordination across seven different entities (Figure 4). This, in conjunction with the U.K. government's alteration of its SIB pilot in Peterborough² and the high-profile negative result of Goldman Sachs' initial Rikers Island SIB,³ has made some observers skeptical as to whether SIBs can scale in a meaningful way to reach a size that would

² Social Finance, At Work: Finance & IT - Social Finance - Has the social investment flagship sailed off course? Third Sector, 2014: p. 19.

³ Paul, B., No Success Like Failure: N.Y. Sees Social Impact Bond Pluses. (Regional News). The Bond Buyer, 2015. 1(34337).

attract traditional investors.⁴ Others argue against SIBs by averring that the major cost advantage of SIB contracts is the decrease in labor costs for contract workers over government employees, and that the outsourcing of welfare programs is just a transitional step toward government defunding of social services.⁵

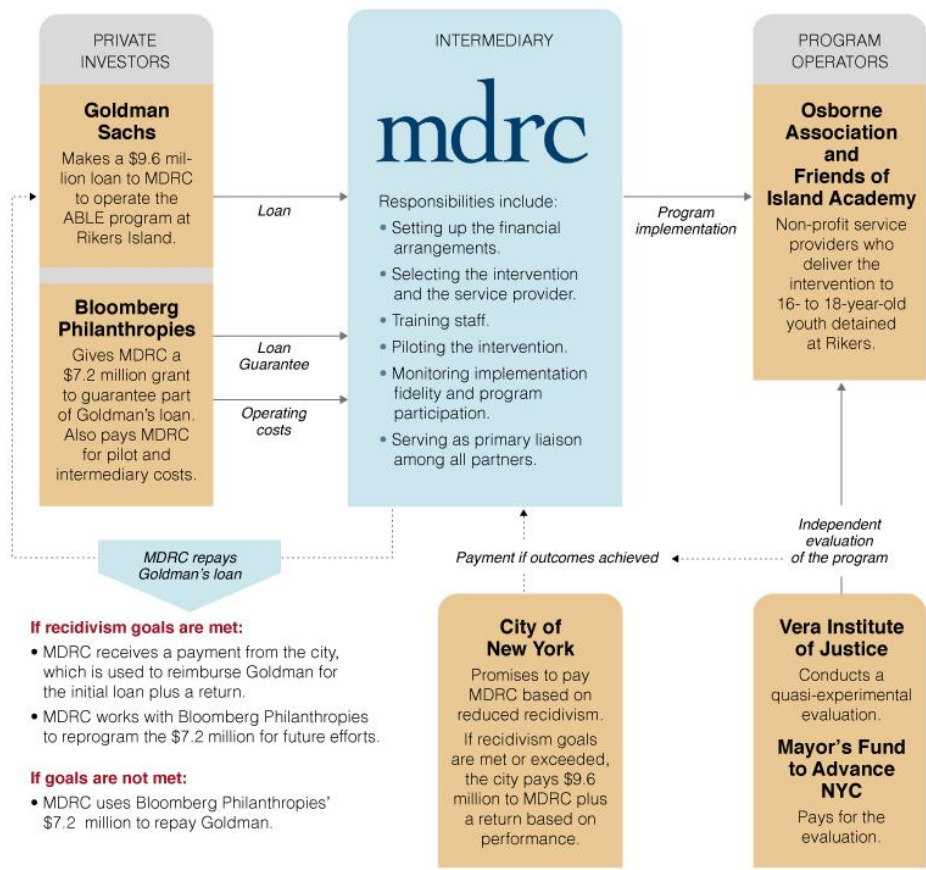


Figure 4: SIB contract partners to decrease youth recidivism rates at Rikers Island. Source: mdrc: <http://www.mdrc.org/key-partners-nycs-social-impact-bond>

Despite the setbacks and critiques, the SIB model has achieved several milestones since 2010. The U.K. has recently offered its first SIB to retail investors.⁶ In the U.S., Utah became the first state to pay for a successful educational intervention.⁷ Finally, the Children's Investment Fund

⁴ Arena, M. et al., Social Impact Bonds: Blockbuster or Flash in a Pan? International Journal of Public Administration, 2016: p. 1-13.

⁵ McHugh, N., Social impact bonds: a wolf in sheep's clothing? Journal of Poverty and Social Justice, 2013. 21(3): p. 247-257.

⁶ Johnson, S., First social impact retail bond launched. (FT REPORT - FUND MANAGEMENT). 2013. p. 1.

⁷ Williamson, R., Goldman Sachs Social Impact Bond Pays Off in Utah. 2015: New York, N.Y.

Foundation became the first non-government outcomes funder when it signed a DIB [SIB] contract designed to increase the educational attainment of girls in Rajasthan, India.⁸

The future growth rate and structure of the SIB market remain open questions. The purpose of this analysis is to explore the existing risks and barriers that prevent SIBs from becoming widely used to achieve societal welfare gains. Once we identify the risks and barriers, we examine other financial products to find insights into how to promote growth in the SIB market.

⁸ Layak, S., DIB: New financial instrument helping NGO Educate Girls fund social work in Rajasthan [Finance]. 2014: New Delhi.

3. Analysis Methodology

The methodology used in this analysis included reviews of primary literature, semi-structured interviews with experts and representative stakeholders, and a secondary analysis of reported survey information included in the July 2015 Brookings Report on the potential and limitations of SIBs.

The primary literature review was conducted through several sources. We utilized Harvard Library's Hollis+ search engine, performing indexed word searches for "social impact bond," "SIB," "development impact bond," and "DIB," with date boundaries set between 2010 and the present. Several institutional websites with a known interest in SIB financing were also assessed: the Center for Global Development, the Brookings Institute, Social Finance, Third Sector Capital, and the Harvard Kennedy School Government (HKS) Performance Lab.

The market analysis was informed by Instiglio's Impact Bonds Worldwide Resource (<http://www.instiglio.org/en/sibs-worldwide/>), the Brookings Institute's review of existing social impact bonds, and the HKS Government Performance Lab's projects database (<http://govlab.hks.harvard.edu/our-projects>).

Semi-structured interviews with experts and stakeholders were conducted under the direction of the Director of the HKS Government Performance Lab, Professor Jeffrey Liebman. These interviews provided additional insights on risks and barriers to scale as well as the feasibility of proposed financial products. A list of standard questions posed to interviewees is included in Appendix A. Questions from select categories were asked based upon the interviewee's area of expertise.

4. Market landscape

The social impact bond market has grown significantly in the five years since the implementation of the first SIB in 2010. Its growth has been particularly strong in the past two years: during this time, the number of implemented SIBs has tripled to reach over 50 projects in more than a dozen countries around the world. This chapter provides an overview of the existing SIBs, their areas of focus, and their capital structures and outcome payments.

Overview

The first SIB, implemented in the U.K. in 2010, was aimed at reducing recidivism rates among male prisoners in Peterborough. After a slow start in the early years, the number of deals implemented almost tripled between 2013 and 2015; by 2015, over 50 SIBs were implemented around the world. Approximately half were located in the UK, where the national government plays a very active role, having established a Center for Social Impact Bonds in the Prime Minister's Cabinet Office; the UK's government-established Innovation Fund and Chance Fund are responsible for 17 ongoing projects in employment and social welfare. The U.S. market, the second largest player in the field, has so far grown to accommodate seven SIBs. Australia, Germany, the Netherlands, Finland, Portugal, Belgium, Canada, Switzerland and Austria have also implemented their first SIBs. Numerous other countries including Chile, Colombia, Costa Rica, South Africa, India, and Uganda have been developing their first ever SIB programs as well.⁹

⁹ Perakis, Rita, "First Development Impact Bond Is Launched", *Center for Global Development*, June 2014.

Country	Design stage	Implementation stage
United Kingdom	8	25
United States	8	11
Australia	1	2
Netherlands		2
Israel	4	1
Finland	1	1
Austria		1
Belgium		1
Canada		1
Germany		1
India		1
Ireland		1
Peru		1
Portugal		1
South Korea		1
Switzerland		1
Chile	1	
Colombia	1	
New Zealand	1	

South Africa	1	
Uganda	1	
TOTAL	27	52

Figure 5: Number of SIBs/DIBs worldwide; Source: Instiglio

Areas of focus

The earliest SIBs focused primarily on criminal justice. Since then SIBs in employment, education, and various aspects of social welfare (adoption, foster care, homelessness, and disadvantaged youth) have attracted the most attention and investment. Criminal justice and employment have been particularly good starting areas for the development and implementation of SIBs, as they offer easily quantifiable, near-term, monetizable outcomes. Moreover, the negative consequences of policy failures in these areas are immediately perceived by the community, which creates popular pressure and strong incentives for the commissioner to deal with the issue. The existing education SIBs focus on access to pre-school education and primary-school technological supplies for children in disadvantaged areas.

The area of the SIB can determine its targeted population groups. Education and welfare projects tend to focus on children and adolescents, while homelessness and criminal justice programs normally work with adults. In summer 2015, the first SIB targeting the wellbeing of the elderly was released in the UK’s Worcestershire County.¹⁰ Two recent projects in Belgium and Switzerland have also focused specifically on the integration of immigrants and asylum seekers into local labor markets.¹¹

¹⁰ Keble, Richard, Well Connected Social Impact Bond – Briefing Note, http://www.worcestershire.gov.uk/download/downloads/id/3714/well_connected_social_impact_bond_%E2%80%93_briefing_note.pdf.

¹¹ Specking, Heiko, “Social impact bonds: made in Switzerland – finally!”, *Alliance*, August 2015, <http://www.alliancemagazine.org/blog/social-impact-bonds-made-in-switzerland-finally/>

Capital structure

Most SIBs have investment structures that combine riskier and more conservative aspects, much like debt and equity. All deals, by definition, offer variable repayment and interest based on the performance of the project, but many also set caps on returns and have set interest rates for given outcomes. The deals in Britain have generally been structured more like equity, while in the U.S. debt-like structures are more common. In the US, various SIBs have also been financed by layered capital structures, including senior and subordinate investments, grants, or investment guarantees. Subordinate investment is repaid after senior investment, which makes it riskier.

Many deals, especially in the UK, recycle funds by reinvesting early payments by the outcome funder back into program operation. The total payments from the outcome funder to the program are therefore much greater than what the investor receives. The common use of capital recycling in the U.K. also means that the requirements of up-front capital commitments are generally lower, as seen in the figure below. The range of capital commitments is fairly large: the smallest amount of \$148,000 has been committed to the educational impact bond in Lisbon, Portugal, and the largest, \$16.9 million, to the Child-Parent Center in Chicago. The largest single amount to date, \$24.5 million, has been committed to a homelessness SIB in Massachusetts, but the vast majority of this sum comes in the form of non-recoverable grants.¹²

¹² The Potential and Limitations of Impact Bonds, 2015, Brookings, p. 15.

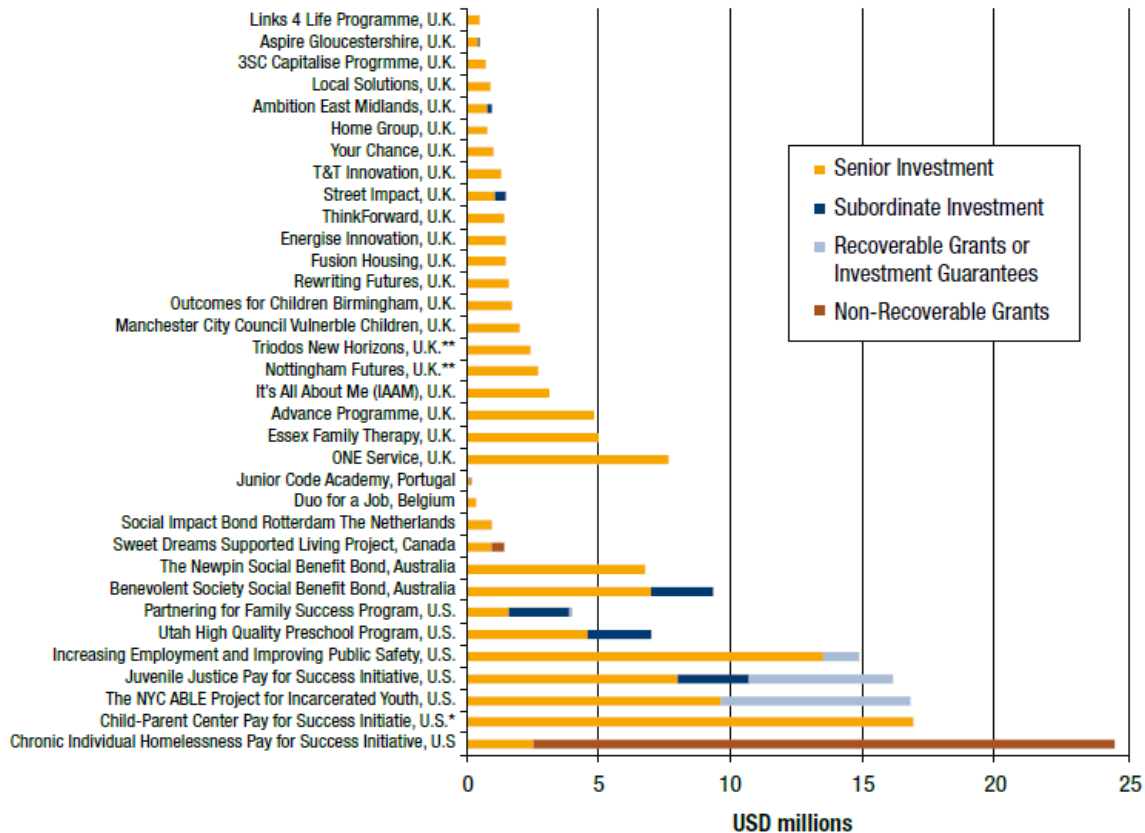


Figure 6: Capital commitments for selected SIBs; Source: The Potential and Limitations of Impact Bonds, 2015, Brookings

Outcome payments

All projects establish a maximum potential return to investors, or a maximum payment that the outcome funder will be required to pay. The maximum contract values of individual projects tend to be below 7.5%, but these vary significantly. For instance, the employment SIB in Germany has a maximum average annual return set of 3%, while two family-focused projects in New South Wales and Australia set much higher maximum returns: the Newpin Bond could deliver up to 15%, and the Benevolent Society up to 10% for senior and 30% for subordinate investors. The Newpin Bond, aimed at preventing children from entering out-of-home care, is one of the SIBs that has also delivered returns to investors. In its first year, the project restored 28 children in out-of-home care to their families and prevented children in 10 at-risk families

from entering care, delivering a return of 7.5% to their investors, which puts it in the middle of the range of possible returns.¹³ The successful pre-school SIB program in Utah delivered the investor an estimated return of 5-7%, while the Innovation Fund in the U.K. announced that at least three second-round projects have delivered returns to investors and will be recommissioned.¹⁴

¹³ Australian Centre for Financial Studies (ACFS), Roundtable: The Future of Social Impact Bonds, July 2015, p.5.

¹⁴ Popper Nathaniel, "For Goldman, Success in Social Impact Bond That Aids Schoolchildren", *New York Times*, October 2015, <http://www.nytimes.com/2015/10/08/business/for-goldman-success-in-social-impact-bond-that-aids-schoolchildren.html>; Ward, Ellie, "Triple triumph: three U.K. SIBs return investor capital", July 2015, <https://www.pioneerspost.com/news-views/20150715/triple-threat-three-uk-social-impact-bonds-return-investor-capital>

5. Risks and Barriers to Scale

The following section will identify and define the eight key investor risks present in SIBs and the four main barriers to scale for the SIB market.

Investor risks

Operational risk: Operational risk can be subdivided into two categories: execution risk and intermediary risk.

Execution (Service Provider) Risk: Execution risk can be defined as a principle-agent risk between the financial intermediary and the hired service provider. Even after an intervention or service delivery model has been found to be effective, there is a risk that the chosen service provider is ill-equipped to implement it correctly. While the reason for this risk could be from a service provider willfully exploiting the asymmetry of information – knowing that they are not capable of implementing the program – this risk is more likely to be a product of poor internal operations and performance management. This indicates that financial intermediaries and private funders can see greater benefits when they take a hands-on approach to working with providers.

Intermediary risk: Given the central role of the intermediary in the SIB structure, it can very easily become a bottleneck and undermine a project's social and financial goals. With the differentiated and evolving structure of SIBs, responsibilities of the intermediary are multi-faceted and constantly changing. Some intermediaries might simply not be capable of managing and coordinating the complex networks and long list of duties and responsibilities. Since the SIB market itself is relatively new, there is no established intermediary with a great track record and years of experience, and thus intermediary risk is particularly relevant in today's environment. However, with the scaling-up of the market, and through trial-and-error and good due diligence,

the intermediary risk will be mitigated. As more experience is accumulated, best practices and guidelines for intermediaries, as well as processes for removing or substituting them, will emerge.

There is, however, another aspect of the intermediary risk: conflicts of interest. If the intermediary's underlying interests or incentives align with the outcome funder, it could very well prioritize those interests over those of the investors. In such cases investors should require absolutely transparent monitoring and evaluation processes and rigorously assess the incentives and interests of all parties involved.

Government non-payment risk: Government non-payment risk can be defined as the risk that the government (or outcome funder) fails to pay the predetermined return to the investor(s) following a successful evaluation of achieved outcomes. This risk can be further divided into two types of government non-payment risk: 1) government unwillingness to pay and 2) government inability to pay. The former refers to the situation in which, due to a change of administration or the government's priorities, the government defunds the social project and therefore chooses to break the SIB contract. The latter refers to the situation in which, due to fiscal stress, the government loses its ability to fund the project. This risk is particularly acute for DIBs, as many of the potential outcome funders could be prone to macroeconomic instability. In addition, the existence of currency mismatches, in which DIBs are contracted in foreign currency, could be susceptible to currency crises and/or capital controls. This risk is mitigated if the outcome funder is an international financial institution, such as the World Bank, rather than a sovereign government.

To date, there has been little clarification about the legal recourses investors can take in the case of government non-payment of SIBs. In the case of domestically issued SIBs, it is likely that a country's domestic legal system would be used for dispute resolution. However, the lack of agreed-upon evaluation metrics and the legal system's inexperience in resolving these conflicts mean that uncertainties exist. For foreign issued DIBs, the legal recourses for investors are even less clear. Cross-border investment disputes are usually dealt with in international arbitration courts. However, the arbitration process is slow and costly for investors. In addition, even if the arbitration court rules in favor of the investor, foreign entities or governments oftentimes still refuse to pay, rendering the arbitration ruling irrelevant. Finally, given that the SIB market is in its early stages, it is unclear whether DIBs will be covered under bilateral investment treaties (BITs) and therefore afforded the same protections and resources from the home country's government.

Systemic risk: Systemic risk can be defined as the myriad of potentially confounding factors that are outside of the scope of the specific services provided and can affect the success of the SIB. As an example, a local or national economic downturn would impact a SIB contract designed to increase successful job placement rates. This risk is less important in population-based payment schemes, as they typically include a comparison or control group that does not receive the intervention and serves as a benchmark for success.

Intervention model risk: Intervention model risk can be defined as the risk that the intervention model being funded is ineffective and will therefore fail to achieve its desired outcome. In this case the investor would not get paid or would take a haircut on the initial investment. Currently, this risk is significant because of the uncertainties and lack of agreed-upon standards for the

measurement of social outcomes and the difficulty of monetizing social outcomes. While trial and error of intervention models is expected to help mitigate this risk, success in one geographical area, population, time frame, or social sector cannot directly correlate across different projects, which causes uncertainty to persist. Randomized control trials and other statistical techniques are currently being used to try to mitigate this risk; though this will undoubtedly help, intervention model risk can never be eliminated altogether.

Evaluation risk: Evaluation risk can be defined as the risk that even if the interventional model is effective in achieving the desired outcomes, the results are incorrectly evaluated. If the evaluation shows that the outcomes were less effective than they actually were, the investor risks not getting paid or having to take a haircut on the initial investment. Similar to the intervention model risk, evaluation risk is significant because of the uncertainties surrounding the measurement of social outcomes. Once again, trial and error and the use of statistical techniques may help mitigate this risk, but it cannot be eliminated altogether.

Liquidity risk: Liquidity risk can be defined as the risk investors face when funding a SIB contract whose payouts occur over an extended time span. The typical length of a SIB contract is four to five years, some last as long as ten. Without a secondary market, investors have no way to liquidate their positions in a situation where the opportunity cost of capital would normally compel them to do so.

Reputation risk: All players in a SIB are potentially vulnerable to reputational damage should the project fail. The service provider and outcome funder (especially if it is a public institution) are probably the most directly exposed, but a major controversy could certainly have the potential to destroy the public image of everyone involved. A case of mistreatment of clients,

corruption, or rigged metrics would certainly affect investors' image beyond the structure of the deal. The only way this risk can be mitigated is for the investor to perform robust due diligence of all actors involved in the deal.

Barriers to scale

Transaction costs: Transaction costs can be defined as the costs involved in market exchange. More specifically, they refer to the costs of discovering market prices and writing and enforcing contracts. Within the SIB market, transaction costs are dominated by the costs incurred for intermediary services and technical assistance, evaluation, and legal fees. As an example of the high transaction costs related to legal services, according to the Brookings Institute, the Massachusetts recidivism SIB required that over 27 contracts be written and over 1,100 legal hours billed.¹⁵ Further, of the 38 deals that the Brookings Institute analyzed for its study on SIBs, deal development ranged from six months to three years. Given the nascent and relatively ad-hoc nature of the SIB market, these transaction costs are considered to be extremely high and prohibitive for further scaling.

Availability of capital: The availability of private entities willing to invest capital in SIBs remains limited. The cause of this limitation is multifactorial. First, the lack of investment vehicles and credible financial agents that can be trusted to direct capital flows has greatly limited the number of investors exposed to SIBs. Second, investors remain unconvinced that significant returns can be made on SIB contracts. Third, minimizing the uncertainty of future payments is difficult when deal success depends on public officials' willingness to structure traditional services as SIB contracts while simultaneously facing election cycles. Fourth, payouts

¹⁵ Brookings Institute, "The Potential and Limitations of Impact Bonds: Lessons from the First Five Years of Experience Worldwide," p. 30

can occur over extended time periods, and the lag between service provisioning and knowing successful outcomes have been achieved creates uncertainty. Fifth, there are few entities willing to play the role of a market maker. Further, since only a small number of contracts currently exist, larger financial intermediaries cannot justify trying to establish a first mover advantage by taking on the role of a loss leader. This role would then have to be taken on directly by the government, a government-sponsored entity, or a philanthropic organization.

Deal flow availability: Deal flow availability generally refers to the amount of available investment or business opportunities. In the SIB market, the essential requirement is the willingness of the government (outcome funder) to support the specific social service, engage in a SIB project, and repay investors. As this market is still in infancy with a limited proven track record, many governments are cautious about engaging in the market. On a broader level, questions have been raised about the availability of monetizable and easily measurable socially desirable outcomes that would be suitable for SIB projects.

Availability of service providers: There are two major barriers related to the availability of service providers. Scaling an intervention tends to be a complex, often non-linear process, which makes it difficult to assess a priori a provider's capacity to scale up the project. On a more fundamental level, there are few service providers with an established reputation of delivering the desired outcomes through SIB projects, and since there is no rating system for providers' capabilities, investors and governments are reluctant to participate in the market.

Expected impact of intervention models on investor risks and barriers

High
Medium
Low/None

Investor Risks	CDM bundle model	Structured Financial Instrument model	Private Equity model
Execution	Low/None	Low/None	High
Intermediary	High	Medium	High
Government Non-Payment	Low/None	Low/None	Low/None
Systemic	Low/None	Low/None	Low/None
Intervention Model	Low/None	High	High
Evaluation	Medium	Low/None	Low/None
Liquidity	Medium	High	Medium
Reputation	High	Low/None	High

Barriers to scale	CDM bundle model	Structured Financial Instrument model	Private Equity model
Transaction costs	High	High	High
Availability of Capital	Medium	High	High
Deal Flow Availability	Low/None	Low/None	Low/None
Availability of Service Providers	Low/None	Low/None	Low/None

6. High Transaction Costs as the “Binding Constraint”

Having identified the investor risks and barriers to scale, it is now necessary to determine which factor presents the biggest challenge for the SIB market’s development. For the purpose of this analysis, investor risks will be bucketed into barriers to scale as a constraint on the availability of capital. Therefore, the following section will focus exclusively on determining which barrier to scale can be considered the “binding constraint” on the SIB market’s development.

Definition of Binding Constraint

Building off of Ricardo Hausmann, Dani Rodrik, and Andrés Velasco’s work in development economics, it is vital to understand what the “binding constraints” are for the SIB market’s growth. As Hausmann, Rodrik and Velasco have shown, all developing economies face significant economic and development challenges. However, certain challenges are more restrictive to growth than others, meaning that if these problems are ignored in favor of concentration on less restrictive challenges, there might be no (or at best marginal) impact on a country’s development. In essence, improvements to a country’s economic development are constrained by a binding factor. This is a particularly useful framework in development economics, because implementation capacity, political support, and financing are usually scarce.

Binding Constraints Analysis for SIB Market

This framework is helpful when thinking about the numerous challenges the SIB market currently faces. As illustrated by Figure 7, respondents to the Brookings Institution survey on social impact bonds highlighted 16 challenges in developing the market. Of these 16 challenges, 9 were cited as a “big challenge” or “somewhat of a challenge” by at least 50% of the

respondents. Clearly, there are many potential barriers to scale for SIBs with many potential solutions.

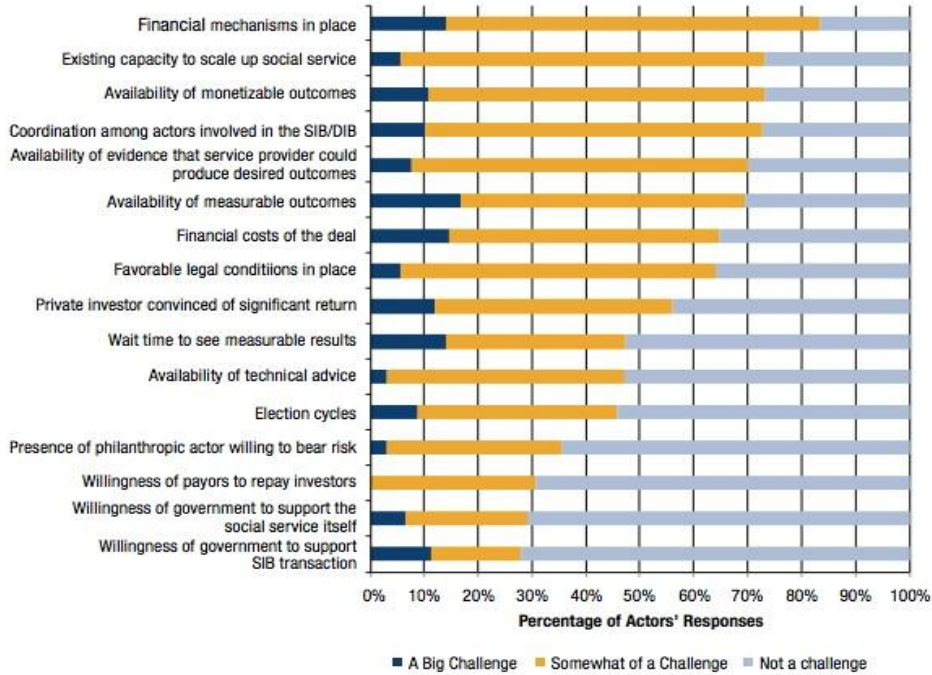


Figure 7: Brookings Institution Survey on Challenges in Developing Social Impact Bonds

Whereas in the Hausmann, Rodrik, and Velasco framework governments or funding agencies are restricted in their intervention options by implementation capacity, political support, and financing, SIB reformers are restricted by research funding, investor and outcome funder appetite, and public support. Therefore, while momentum for the SIB market is strong, it is vital to identify, prioritize, and address the binding constraints to the market’s development.

By categorizing the Brookings Institution survey responses in Figure 8 into the four overarching barriers to scale identified in Section 5, it becomes clear that transaction costs stand out as the most widely cited challenge. This response was verified through expert interviews, indicating that transaction costs can be considered the binding constraint for SIB development.

Transaction Costs		Availability of Capital		Deal Flow Availability		Availability of Service Providers	
Challenge	% of Respondents Citing Factor as a Challenge to Development	Challenge	% of Respondents Citing Factor as a Challenge to Development	Challenge	% of Respondents Citing Factor as a Challenge to Development	Challenge	% of Respondents Citing Factor as a Challenge to Development
Coordination among actors involved in the SIB/DIB	72%	Financial mechanisms in place	82%	Availability of monetizable outcomes	73%	Existing capacity to scale up social service	72%
Financial cost of the deal	64%	Private investor convinced of significant return	56%	Availability of measurable outcomes	72%	Availability of evidence that service provider could produce desired outcome	70%
Favorable legal conditions in place	63%	Wait time to see measurable results	48%	Willingness of payers to repay investors	30%	Average % of Respondants	71%
Availability of technical advice	48%	Election cycles	46%	Willingness of government to support the social service itself	29%	Number of Challenges	2
Election cycles	46%	Presence of philanthropic actor willing to bear risk	35%	Willingness of government to support SIB mechanism	28%	Weighted Importance of Challenge	1.42
Average % of Respondants	59%	Average % of Respondants	53%	Average % of Respondants	46%		
Number of Challenges	5	Number of Challenges	5	Number of Challenges	5		
Weighted Importance of Challenge	2.93	Weighted Importance of Challenge	2.67	Weighted Importance of Challenge	2.32		

Figure 8: Brookings Institution Survey on Challenges in Developing Social Impact Bonds

As many SIB market commentators point out, transaction costs will be reduced as the market grows and develops. As deal flow and deal size increase, transaction costs will inevitably become smaller as a percentage of the total investment. However, this assumes that the market will be able to scale without first reducing transaction costs. Using the binding constraints framework, this appears unlikely, since addressing the other challenges would only produce marginal benefits. Thus, it is necessary to prioritize lowering transaction costs and determine the most effective way to reduce them.

Applying this logic, the following section analyzes three alternative financing/investment products to see how other models have been used to reduce transaction costs and assess whether these models can be adapted to create more effective financial mechanisms for SIBs. These models include bundled Clean Development Mechanisms, structured financial instruments, and

social impact private equity funds. Though the models were picked because of their ability to reduce transaction costs, they will also be evaluated for their ability to reduce the additional barriers to scale and mitigate investor risks.

7. Financial Product 1: Bundled Clean Development Mechanism

The Clean Development Mechanism (CDM) has for the past decade been a prominent international mechanism encouraging private and public investment in greenhouse gas reduction in developing countries. Small-scale CDM projects have been bundled into single projects in order to increase their profitability and reduce risks to investors. This section will provide an overview of the bundled CDM model and its use for small-scale green energy projects, a discussion on how the model can be translated into the SIB market, and an assessment of the model's ability to mitigate investor risks and address barriers to scale for SIBs.

Summary of Analysis

Bundled CDM Model's Ability to Mitigate Investor Risks in Social Impact Bonds:

Execution	Intermediary	Government Non-Payment	Systemic	Intervention Model	Evaluation	Liquidity	Reputation

Bundled CDM Model's Ability to Address Barriers for Scale for Social Impact Bonds:

Transaction Costs	Availability of Capital	Deal Flow Availability	Availability of Service Providers

Overview of CDM bundling

The Kyoto Protocol, signed by almost 200 countries as a part of the UNFCCC in 1997, established quantitative targets for greenhouse gas (GHG) emissions for industrialized economies. These countries can meet their targets either through domestic climate change mitigation efforts or some of the Kyoto Mechanisms, including the CDM. The CDM allows countries with emission reduction commitments to meet part of their reductions abroad, where GHG abatement costs can be lower. At the same time, this mechanism is supposed to contribute to the investment in clean energy technology and sustainable development in developing countries. The host countries

receive certified emission reductions (CERs) for each ton of GHG emissions that can be further traded on international carbon markets.

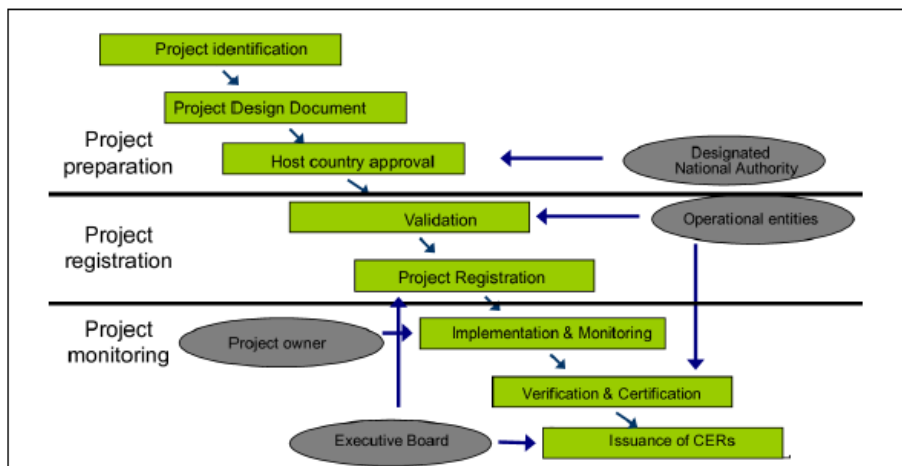


Figure 9: CDM project life cycle; Source: Kumar, H., et Al., Bundling small-scale CDM projects, UNEP (2004)

However, the traditional design of the CDM has resulted in high transactions costs to individual small-scale projects. Despite the efforts to simplify and standardize procedures to develop small-scale CDMs, project developers still face prohibitive costs related to the development and validation of project design documents and the verification and certification of emission reductions. Of almost 2,900 projects that have generated credits so far, only about 35% are small-scale projects; these are responsible for just under 80 million CERs, which accounts for less than 5% of the total.¹⁶ As the initial and running costs are mostly fixed and not directly related to the size of the emission reduction, the potential return *is* related; this means that the low carbon savings per installation make it difficult for small-scale projects to derive value from participating in the CDM. The concern is that small-scale projects have the potential to contribute significantly to poverty reduction and sustainable development, particularly in rural areas.

¹⁶ Data from UNEP CDM Pipeline <http://www.cdmpipeline.org/>

Bundling a number of individual small-scale projects into one larger CDM project has been proposed as one possible solution to overcome these high transaction costs. As long as the portfolio is under the limits defined for small-scale projects, and the projects are of the same type, within the same geographical area, at the same stage of development, and bundled by one organization, they can benefit from economies of scale and lower running transaction costs.

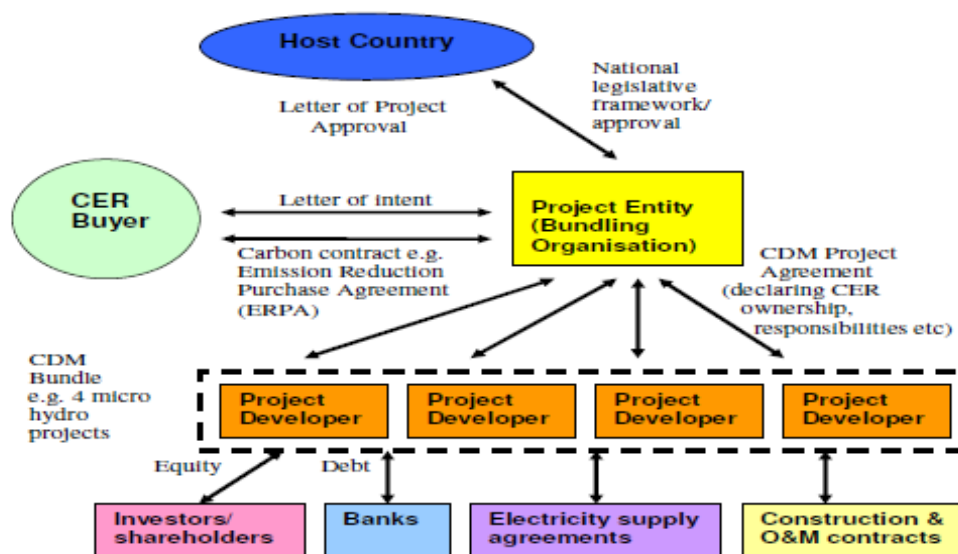


Figure 10 Structure of a bundled CDM project; Source: Bhardwaj, Nishant, et al., A Guide to Bundling Small-scale CDM Projects, (2004)

Problems of small-scale projects

Small-scale projects face several obstacles when searching for CDM financing, some of which could be addressed through bundling.

- **Up-front transaction costs:** With the exception of the UNFCCC registration fee, small projects face similar fixed up-front transaction costs to larger projects, in terms of Project Design Document (PDD) elaboration, validation, and installation of monitoring systems. These could sum up to \$100,000 per project even before it has been successfully registered.¹⁷

¹⁷ Spalding-Fecher et al. (2012) Assessing the Impact of the Clean Development Mechanism, p.123

- ***Access to capital:*** Due to the small expected CDM and non-CDM revenues, it is difficult to find sources of finance to cover the up-front costs for small-scale projects. In most developing countries, there is also a lack of awareness about the carbon market mechanism. Local capital markets have been slow to respond, and the project developers often lack the capabilities to finance projects in-house or tap foreign capital markets.¹⁸
- ***Operational transaction costs:*** Since small-scale CDMs have significantly smaller emission reductions, their running transaction costs, in terms of monitoring, verification, and issuance per unit of output can be substantial. In fact, one study found that the current prices of CERs (below \$1 per ton of CO₂) would not even cover operational costs for many small projects.¹⁹
- ***Unpredictability of carbon prices:*** Given the relatively narrow margins of small-scale CDM projects, they tend to be particularly susceptible to volatility of prices and revenues. Since they are relatively easy to scale, small-scale projects are often developed with a subsequent expansion. However, CERs in recent years have fallen from €12 to well below €1, particularly hurting the small-scale projects.²⁰
- ***Reputational issues:*** Usually run by local project developers, small-scale CDM projects also lack direct linkages to CER markets and cannot afford additional transaction costs related to information provision and negotiation. Thus, they often have to accept lower prices for their CERs from international investors.²¹

¹⁸ Bhardwaj, Nishant et al., *Realising the Potential of Small-scale CDM Projects in India* (2004), p.24

¹⁹ Carsten Warnecke et al. (2013) CDM Market Support Study, Ecofys, p.12

²⁰ Ibid., p. 1, 18

²¹ Kumar, H. et al., *Bundling small-scale CDM projects*, UNEP (2004), p. 15.

Experience with bundled CDMs

After a relatively slow uptake, around 100 small-scale bundled CDM projects were registered and issued by 2014. These projects were mostly located in countries like India, China, Brazil, and Mexico – all countries with significant deficiencies in sustainable and affordable energy supply, particularly in rural areas.²² A majority of these CDMs bundle together projects in wind, solar, biogas, or small-scale hydro innovation, which face high up-front costs, are the most suitable for distributed generation and offer relatively easy metering and monitoring mechanisms. Although CDM bundles have so far delivered mixed results, there are several important observations and lessons that can be drawn from them:

- ***Establishing a bundle is neither easy nor cheap:*** Since a bundle consists of small-scale projects, it requires an independent bundling organization. This increases the up-front transaction costs, especially due to the need to establish administrative and contractual systems. Bundled projects usually involve a far higher number of participants than standard CDMs, and all contracts and agreements between them have to be incorporated into the overall project structure. For instance, one project planning to install solar water heater systems in three regions in India was bundled together by a consortium of 22 individual suppliers, manufacturers, and marketers that had to agree to contractual obligations among themselves even before turning to outside actors. The cost and time required to reach these individual agreements and contracts can increase the overall up-front transaction costs significantly. Bundling allows for decreased costs per unit, but since higher overall costs are incurred even before the registration is approved, the

²² Naik M, Singh A, Unnikrishnan S, Naik N, Nimkar I (2015) Review of Clean Development Mechanism and use of Bundled Projects in Small and Medium Scale Enterprises. J Waste Resources 5, p. 184.

project developer's take is exposed to significant risk. The potential value of having a bundling institution as early as possible in a project, therefore, is that it can provide adequate financial backing and increase the chance that the project will get approved and qualify for CERs.

- ***It matters who does the bundling:*** Given the up-front costs and risks involved in bundling small-scale projects, the bundling organization plays a vital role in the project's life cycle. If a project is to be successful, the bundling organization needs to have or develop skills and capacities specific to the role it wants to carry out. A variety of organizations can take on the role of bundlers, as different parts of the CDM project cycle require different strengths and capacities. Bundling organizations usually add the greatest value in the project development and post-implementation phase, including monitoring, verification, and certification.

Many proposals for bundled projects come from project developers or project consultants, as they tend to have experience with project identification and development. They also have greater control over and involvement in the project, and thus they are more likely to have stronger commitments to the success of the project. Energy efficiency and waste management projects are particularly suitable for CDM bundles by project developers, as they generate savings, but not direct additional income, (e.g., energy generation).²³ However, the developers often lack the managerial and financial capabilities required to establish contractually robust bundles in the face of high up-front transaction costs and insufficient linkages to the carbon finance markets.

²³ For instance, a bundle of six composting plants in Tamil Nadu in India would deliver an IRR of only 2.7% - in one project even a negative one – without revenues from CDMs.

Alternatively, the bundled project can originate from manufacturers of essential supplies. This has been particularly common in power generation through small-scale biogas, solar, and wind equipment. They generally possess strong technical expertise and can identify and develop projects, but unless they are a subsidiary of a large multinational corporation, they tend to face financial and reputational constraints as well as a lack of control in monitoring the project.

Banks and financial institutions are well positioned to handle the initial financial and risk burden and provide the reputation and marketing experience needed to do business in the international carbon markets. Moreover, they tend to have managerial and contract design expertise. However, they are susceptible to the risk of non-delivery, as they do not have direct control over the project and are not directly involved in metering and monitoring.

Small-scale energy generation and efficiency projects can also be very attractive for Energy Service Companies (ESCOs), as these companies tend to have the substantial technical expertise required to design, set up, and run power projects. Moreover, they usually have experience in measuring and monitoring and are familiar with performance contracts. However, ESCOs in the developing countries often lack the necessary financial strength and connections to carbon markets.

- ***Monitoring and measurement is crucial for the expected savings:*** It has long been expected that the greatest benefits of bundling come from decreased monitoring and verification costs per unit. It is therefore unsurprising that thus far most bundled CDM projects have involved easily metered activities – particularly energy generation connected to the grid. One study estimates that the bundling of metered small-scale projects can reduce the ratio of transaction costs to CER revenues from 20% to just under

10% for individual projects. However, if the bundled projects are not easily metered, the ratio can hike up to above 40%.²⁴ This has to be a crucial consideration in developing the project design. Transaction costs increase rapidly if the bundled projects are not easily metered and/or cannot use common baseline and monitoring plans. Large geographical spread can also become particularly costly for non-metered activities. In order to reduce monitoring costs, the bundles should be large, homogeneous, and concentrated. This structure, however, increases the associated risk.

- ***Risk exposure depends on the structure:*** Besides transaction cost reduction, risk pooling is a central theme in designing CDM bundles. Generally, compared to a single project, a bundle of small projects can distribute the risk of failure across several projects while receiving the same amount of CERs. Bundling can also reduce default risk due to the involvement of a greater number of projects and entrepreneurs. However, the bundle can have a large number of parties involved in implementation and financing, with the bundler having little direct control over the success – and therefore the CER revenues – of the project. For instance, one study of potential CDM bundles in Ghana concluded that due to the large number of parties that would need to be involved, no commercial enterprise was willing to take on the risk of establishing a bundling organization, as it would have very little control over the eventual outcome of the project.²⁵ The bundlers could mitigate these risks through combining project activities with similar or related projects, such as linking GHG projects with other energy efficiency or technology improvement activities. However, in this case the project design would need to address

²⁴ Bhardwaj, Nishant et al., *A Guide to Bundling Small-scale CDM projects* (2005), p.9.

²⁵ Kumar, H. et al., *Bundling small-scale projects*, (2004), p. 25.

the inherent trade-off between the cost benefits and the risks associated with homogeneity and geographical concentration of the projects.

How this method could be used in SIB/DIB market

Given the need for homogenous, easily “metered” projects with common baselines and monitoring plans, fields with well-established metrics and easy data collection – such as energy, employment, and perhaps education – are most suitable for the bundling model.

For instance, the Netherlands’ Buzinezzclub Rotterdam provides coaching and assistance to unemployed youth receiving municipal welfare in order to get them into the labor market or back to an education program. The payment comes from the municipality and is calculated on the basis of savings on social assistance expenditures. Their intervention model appears to have worked, with 60-80% of the participants having left social assistance after six months.²⁶

Having a bundling organization with a regional or even national scope could prove useful for the expansion of the project, particularly in terms of attracting capital, due to the benefits of risk-pooling and enhanced monitoring and evaluation capabilities. In this case the bundling organization could be a financial intermediary, and it could identify similar initiatives to bundle or facilitate expansion into other large municipalities facing similar challenges. Having a pool of projects would decrease the risk of failure, since it is less likely that all current cohorts in all municipalities will not succeed. Moreover, it could facilitate the process of establishing common baseline and contract structures across the projects. If an established institution is involved, it could also bring a reputational advantage.

²⁶ Innovative Practice ‘Buzinezzclub Rotterdam’, 2015, Cityspace, p.20

Nevertheless, such expansion and streamlining could limit the flexibility of experimenting with the intervention and the original focus of the project developer (which in the case of Buzinezzclub Rotterdam was not interested solely in reducing youth unemployment, but also on participants' subsequent entrepreneurial activity). Moreover, the bundler would have very little control over the eventual outcome of individual projects. The success of this model in the SIB markets therefore relies on the existence of a successful intervention model and an availability of measurable outcomes.

8. Financial Product 2: Structured Financial Instruments

Structured financial instruments (SFIs) are products widely used across asset classes that allow for standardized methods of evaluating the risk and effective distribution of risk-to-return ratios through derivatization and market segmentation. While the SIB market could rapidly scale if an SFI model were applied, it would greatly lessen the potential areas of social service where SIBs could be implemented. The success of an SFI model would require that either governments or ratings agencies take on the responsibility of being clearinghouses for SIBs; it would also require outcome payers to provide credit insulation in order to ensure liquidity and establish a floor for assessing a SIB's value.

Summary of Analysis

SFI Model's Ability to Mitigate Investor Risks in Social Impact Bonds:

Execution	Intermediary	Government Non-Payment	Systemic	Intervention Model	Evaluation	Liquidity	Reputation

SFI Model's Ability to Address Barriers for Scale for Social Impact Bonds:

Transaction Costs	Availability of Capital	Deal Flow Availability	Availability of Service Providers

Overview of SFI Model

Structured financial instruments have proven to be effective tools in growing markets within asset classes where complexity and small individual deal sizes have traditionally prevented development. Collateralized bond obligations, collateralized debt obligations, and syndicated

loans represent the most common types of SFIs. These instruments succeed because they are able to increase the size of deals to make them suitable for large-scale investors to consider investing capital. SFIs accomplish this through several means.

1. SFIs are able to impose the standardization of securities to such a degree that they can be bundled.
2. SFIs are able to stratify risk in order to attract different types of investors who have variable investor-risk profiles. In order to prevent an entity from being incentivized by deal-volume rather than accurate risk measurement, referred to as “moral hazard,” risk stratification requires a third-party entity whose ability to provide an assessment of risks is trusted within the market (e.g., credit rating agencies for bonds).
3. SFIs are able to create liquidity in otherwise illiquid assets. The standardization of securities allows for consistent modeling and projection of future revenues. This results in the growth of secondary markets, which provide investors with the flexibility they need to alter their portfolio.

How to Apply the Model for SIBs – A Government-Backed SIB Market

Standardization of SIB contracts

The UK’s experience with SIBs has shown that SIB contracts can be standardized in some cases. As an example, the Department for Work and Pensions has created a standardized rate card (Figure 2) that they use across multiple SIB contracts, considerably decreasing the transaction cost of each deal. The level of standardization necessary for the SFI model to work would be higher than the proposed CDM model above. Payments would need to come at predictable times,

and the number of potential payouts would need to be limited to ensure consistency across contracts. This would eliminate projects that have payouts on a per-individual basis, and instead would rely on population-based outcomes such as an overall percentage decrease in recidivism. The number of measurable outcomes would also need to be limited to allow for better prediction of the relative worth of the SIB at its “coupon” payment points.

One of the assumed societal benefits of SIBs, their capacity to help implement innovative interventions that governments would otherwise be reluctant to try, would be greatly curtailed in a SFI-SIB model. In this model, only well-studied interventions with known track records of success could be considered for implementation. Therefore, the SFI-SIB market would consist of financing for programs that outcomes payers would consider implementing themselves if they were not constrained. The reason for this constraint could be financial or political. As an example, some social interventions in the U.S. would be more financially cost-effective in the aggregate, but are limited because cost-savings would be shared between local, state, and federal government entities. The need for budgetary coordination across multiple levels of bureaucracy prohibitively raises the transactional cost barrier.

A high level of standardization is necessary in order to stratify risk within an individual SIB contract. By classifying risk in a predictable way, bundling would allow for the creation of “risk tranches” that could guarantee a rate of return on investment as a percentage rather than a monetary payout. A payout ceiling based on a percentage of estimated cost-savings would be set to ensure this payment structure is not exploited by “over-investment.” As the market grows, SIB contracts would open up for competitive bidding, with the contract going to the service provider who has the lowest estimated capital needs and proof of access to a source of credit.

Additionally, instead of all investors earning the same payout based on an outcome (as in the example in Figure 1), they would have the option of investing in any level of outcome while seeing an escalating rate of return for purchasing a “higher social-impact performance tranche” of bundled SFI-SIBs.

One major benefit of this system is that it would create separate markets that more closely align with the various reasons why investors are interested in SIBs. As an example, philanthropic organizations interested in encouraging the growth of SFI-SIBs (market makers) could specifically invest in low-return tranches with the intention of repeated reinvestment. Simultaneously, investors searching for non-concessionary returns could invest in higher-impact tranches.

The SFI-SIB Market

In the SFI-SIB market, a central clearinghouse would serve both to assess the merits of SIB contracts and act as a repository for requests for service provision from various levels of government. The benefit of government involvement is that it could verify each SIB contract’s estimated cost-savings using administrative budgeting data and publically disseminate the results. The public release of this information would help orient the SFI-SIB market and signal to potential service providers the capacity needed to participate in these contracts.

The relative worth of SFI-SIBs will initially be difficult to estimate. A government will need to facilitate this process by guaranteeing that investors can offload their positions by selling their SFI-SIB assets at a discount to the government. The amount discounted will be weighted based on the maturities of the SIBs included in the SFI, with SIBs closer to maturity being more

heavily discounted. Such a mechanism will incentivize closer scrutiny of the SIBs by investors as they progressively bear more of the risk. Turning SFI-SIBs into diminishing government-backed securities will enable a secondary market to grow as concerns about liquidity and SIB valuation are significantly decreased. In the event of the government buying the SFI-SIB position, it then has the potential to be subsequently resold with the outcomes payments reduced by a percentage reflective of the government discount. An additional benefit of this arrangement is that it would allow for a SFI-SIB presumed to be failing to be “rescued” by another investor or intermediary who believes they have the expertise to achieve better performance.

SWOT Analysis

Investor Risks

Execution (Service Provider) Risk: The SFI-SIB model does little to impact execution risk. This model takes a market-based approach to assessing the capabilities of service providers. It does not provide either a regulatory framework or mechanism for alleviating this risk beyond waiting for service providers to establish track records of success that could then be used to judge their operations.

Intermediary Risk: The SFI-SIB model provides some decreases in intermediary risk, mostly through decreasing the number of roles necessary. The SFI-SIB market-based approach with a central clearinghouse eliminates the need for additional intermediaries related to the assessment and origination of contracts, as the contracts are certified by a single agent and then bid on by service providers. Financial intermediaries would only need to focus on the bundling of

standardized contracts and calculating a composite rate of return for a SFI-SIB. Still, this model does little to specifically align the interests of intermediaries with potential conflicts of interest.

Government Non-payment: The SFI-SIB model envisions that these instruments would need to be backed by depreciating government guarantees in order to promote growth and foster a secondary market. This adds an additional liability to the government without lessening the initial concerns associated with government non-payment.

Systemic: The SFI-SIB model does nothing to alleviate systemic risk, and in its initial stages could exacerbate systemic risk, because of the lack of diversity in SIB contracts necessary to achieve standardization.

Intervention Model: Intervention model risk would be greatly decreased, but at the cost of project diversity. Only limited categories of interventions (e.g., healthcare and recidivism) could feasibly result in the very large reductions in social services costs necessary to drive the SFI-SIB market. Intervention models would be limited to those with proven track records of success, where governments are incapable of budgeting appropriate resources to fund them directly.

Evaluation: No obvious benefit from the SFI-SIB model.

Liquidity: Liquidity risk is greatly reduced in the SFI-SIB model. This occurs because of the depreciating government-backed guarantees on capital investment, which allow for the effective pricing of instruments and the creation of a secondary market. This would allow investors to immediately withdraw their positions should that become necessary.

Reputation: No obvious benefit from the SFI-SIB model.

Barriers to Scale

Transaction Costs: One strength of the SFI-SIB model is the substantial reduction in transaction costs. This reduction is accomplished by eliminating the need for some intermediary roles through the standardization of contracts and a decrease in the number and relative risk of interventions available to service providers to implement.

Availability of Capital: The availability of capital would increase substantially if the SFI-SIB model were implemented. This is because much of the risk from engaging in the SFI-SIB market is “insured” by turning SIBs into government-backed assets. This results in a transfer of the risks of poor performance from investors onto the government.

Deal Flow Availability: No obvious benefit from the SFI-SIB model.

Availability of Service Providers: A SFI-SIB model would lead to a decrease in the number of possible service providers participating in the SIB space. This is because the standardization of contracts and limited number of viable intervention models would cause increasing economies of scale. The deal sizes necessary to interest large-scale investors would create pressure to design large SIB contracts with well-known service providers.

9. Financial Product 3: Impact Investing Private Equity Model

While the private equity model is widely used by the impact investing community, it has yet to be fully adopted as an investment vehicle for SIBs. The following section will provide an overview of the private equity model and its use in impact investing, key trends in the private equity impact investing market, a discussion and case study on how the private equity model can be used for SIBs, and an evaluation of the private equity model's ability to mitigate investor risks and address barriers to scale for SIBs.

Summary of Analysis

Private Equity Model's Ability to Mitigate Investor Risks in Social Impact Bonds:

Execution	Intermediary	Government Non-Payment	Systemic	Intervention Model	Evaluation	Liquidity	Reputation

Private Equity Model's Ability to Address Barriers for Scale for Social Impact Bonds:

Transaction Costs	Availability of Capital	Deal Flow Availability	Availability of Service Providers

Overview of Private Equity Model

The private equity, or fund manager, model is a well-established investment vehicle in the US. Catering toward institutional investors, it is structured as a partnership whereby fund managers (general partners) pool capital from investors (limited partners) in order to invest in private businesses. The fund managers attempt to generate value in the portfolio companies by employing hands-on project management, using their network of specialists, and actively monitoring performance. In addition, investors usually hold seats on the fund board of directors,

and they can contribute expertise and decision-making skills to investment decisions and portfolio management. Financial returns are then realized when the investments are successfully exited at higher valuations than they had when they were first acquired.

Impact Investing Experience with Private Equity Model

Impact investing is an investment approach that targets both financial returns and the creation of social and/or environmental good. It is not an asset class, but rather a strategy, meaning that investments are made across various asset classes. It is usually employed by specialized fund managers that have a wide range of investment mandates and strategies. For example, impact investment funds can target certain locations, economic sectors, social themes, or asset classes. In addition, fund managers or individual funds can be divided into three categories based on their investment objectives: 1) financial first, 2) impact first, or 3) double bottom line.

Key Trends in the Impact Investing Market

- **Rapid Growth:** The social impact investment market began to take off in the early 1990s, and since then it has seen impressive growth in both the level of invested capital and the number of new funds. According to the OECD, by 2012 there was roughly \$40 billion of total capital in the social impact investment market, with approximately 350 new funds being established.²⁷ While this is small compared to the total amount of global managed assets, growth rates for social impact investment have been high.

²⁷ Wilson, Karen E., "New Investment Approaches for Addressing Social and Economic Challenges," *OECD Science, Technology and Industry Policy Papers*, No. 15, 1 July 2014, OECD Publishing, Paris, p. 5

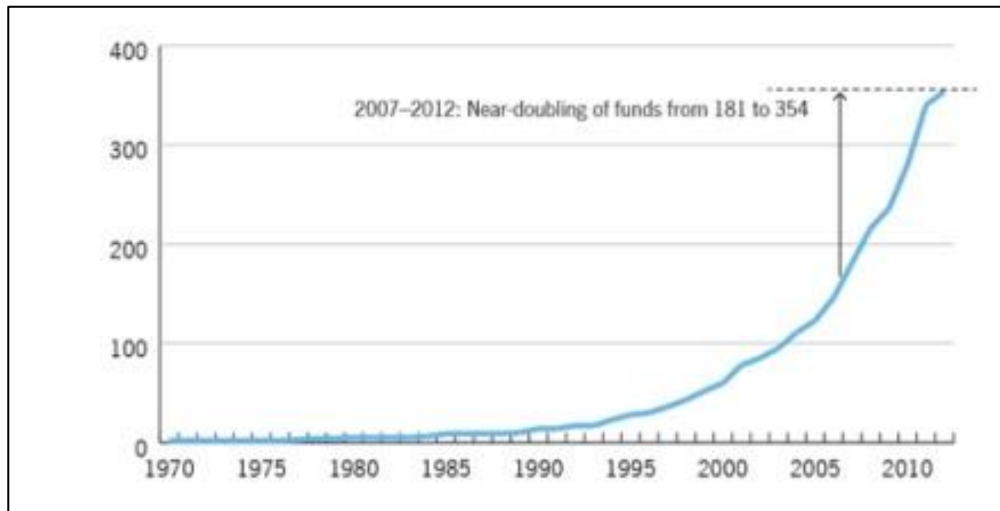


Figure 11: Cumulative number of impact investment funds worldwide, 1970-2012, Source: OECD p. 5

- ***Strong Financial Success:*** While the perception that market rate-seeking social impact funds produce concessionary returns still exists, recent studies have shown that social impact funds have performed well compared to the comparative universe of traditional private equity funds. According to Cambridge Associates and Global Impact Investing Network, who in 2015 created the Impact Investing Benchmark, “In aggregate, impact investment funds launched between 1998 and 2004 – those that are largely realized – have outperformed funds in a comparative universe of conventional [private investment] funds.”²⁸ Further, the Wharton Social Impact Initiative recently conducted a study showing that market rate-seeking funds have not had to make concessions to financial returns in order to preserve the portfolio companies’ missions.²⁹

- ***Strong Future Prospects:*** According to the World Economic Forum, over the next 40 years Generation X and the Millennial Generation will inherit an estimated \$41 trillion

²⁸ “Introducing the Impact Investing Benchmark,” *Cambridge Associates and Global Impact Investing Network (GIIN)*, 2015, p.1
²⁹ Gray, Jacob, Ashburn, Nick Douglas, Harry and Jeffers, Jessica, supervised by Musto, David and Geczy, Christopher, “Great Expectations: Mission Preservation and Financial Performance in Impact Investing,” *The Wharton Social Impact Initiative of the University of Pennsylvania (WSII)*, 7 Oct. 2015, p. 4

from the Baby Boomer Generation. In addition, a recent study by Deloitte showed that Millennials ranked “to improve society” as the number one priority of business.³⁰ This implies that the emerging generation of investors will likely seek out investment opportunities that achieve both social and financial objectives, signaling strong prospects for the social impact investment market.

- ***Difficulty Attracting Institutional Investors:*** While the impact investing market has exhibited strong growth, financial success, and future prospects, it has still had difficulty attracting institutional investors. Key barriers have included: 1) difficulty assessing the risk/reward profile of impact investments due to a lack of performance indicators; 2) the expected trade-off between profit and purpose, which can restrict liability constrained investors; 3) the lack of agreed-upon standards for measuring and reporting social impact, making it difficult for investors to compare different funds; 4) a small pipeline of impact investment opportunities; and 5) a lack of mainstream intermediaries.³¹

How to Apply the Model for SIBs: The Bridges Ventures Social Impact Bond Fund

While impact investment private equity funds are familiar with investments in more traditional asset classes such as socially oriented businesses or real estate, they have yet to develop an appetite for SIBs. The one exception is Bridges Ventures, which in April 2013 launched the Bridges Social Impact Bond Fund. To date, this is the first and only private equity fund focusing exclusively on investing in social impact bonds.

³⁰ “From the Margins to the Mainstream: Assessment of the Impact Investment Sector and Opportunities to Engage Mainstream Investors,” *World Economic Forum Investors Industries and Deloitte Touche Tohmatsu*, Sept. 2013, p. 5

³¹ *ibid* p. 23-26

Bridges Ventures Overview

Founded in 2002, Bridges Ventures is an impact fund manager focused on four main themes: Underserved Markets, Health & Well-being, Education & Skills and Sustainable Living. In order to achieve scale and impact in these four sectors, Bridges Ventures has developed a wide variety of funds that differ in terms of the asset classes and the level of risk-adjusted financial returns they generate. This is meant to draw a wide variety of investors by offering products with varying degrees of financial and impact return expectations. As of December 2015, Bridges Ventures had over £500m in funds under management.

The Bridges Social Impact Bond Fund Overview

Launched in April 2013 with seed capital from Big Society Capital, Omidyar Network, Panahpur, and a co-investment agreement with the Bridges Social Entrepreneurs Fund, The Bridges Social Impact Bond Fund seeks to provide financing for charities and social enterprises in the UK. It is structured as a ten-year close-ended fund, requiring that all investments be made within the first four years of its launch. So far, it has invested in 14 SIBs that span across six social sectors, including: 1) Prevention of Youth Unemployment; 2) Preventing Entry into Care; 3) Supported Adoption; 4) Therapeutic Fostering; 5) Homelessness Support for Young People; and 6) Social Prescribing for Patients with Long-Term Conditions. The fund will make investments for up to £3 million, and must be structured as an outcomes-funded intervention program. Since its inception the fund has expanded its investor base, and now includes investments from the European Investment Fund, Greater Manchester Pension Fund, Merseyside Pension Fund, Deutsche Bank, the Prince of Wales's Charitable Foundation, Trust for London and the Highwood Foundation.

Early Successes of The Bridges Social Impact Bond Fund

In 2015 the first three of Bridges Ventures' 14 SIBs completed their contracts, all delivering positive outcomes. Two of these SIBs, Career Connect and Teens and Toddlers, produced social outcomes above their desired targets and have been recommissioned for a second iteration. Given these SIBs' strong successes, investors were able to generate positive financial returns.

Key Learnings from The Bridges Social Impact Bond Fund

Previously, SIBs have largely been valued for their ability to fund innovative new interventions with little or no track record. However, Bridge Ventures has seen that SIBs can generate significant value by improving existing government programs, correcting perverse incentives created by previous policy, better coordinating multiple stakeholders involved in a project, and unlocking future cashable savings by investing larger amounts of capital up front. If this knowledge were to be applied to the SIB market, SIBs would move from a model focused on innovation to one focused on helping outcome funders achieve better results in policy areas where they already have targeted spends.

With regards to intermediaries, this model would mean that they would evolve from market makers to co-investors/advisors focused on one side of the market. As Bridges Ventures has found, this model has reduced intermediary risk by preventing conflicts of interest, and it has reduced intervention model and execution risk by improving project efficiency and better utilizing previous project learnings. Importantly, this evolution would still allow outcome funders to leverage the flexibility and increased access to service providers generated by SIBs while also improving success rates for the investors.

SWOT Analysis

Investor Risks

Execution (Service Provider) Risk: The private equity model should help to mitigate execution risk significantly. In the traditional private equity space, fund managers have been successful because of their ability to add value to portfolio investments through an active, hands-on management approach. This has translated well into the impact investment space, as fund managers have proven successful in generating both social and financial value on their investments. Importantly, they have gained valuable experience in monitoring ventures' progress toward their impact goals and making strategic interventions when necessary. This indicates that the capacity for fund managers to help social service providers successfully implement their intervention models already exists.

In addition, limited partners are often on the fund advisory board of private equity funds. This allows investors with relevant experience to contribute to the fund's portfolio management, creating more value-add opportunities and helping to ensure effective intervention model execution.

Intermediary Risk: Under the current model, intermediaries act more as project advisors/market makers and operate on a fee-based structure. Fee structures vary widely, and often include closing fees, technical assistance fees, performance management fees, and/or success fees. While the inclusion of success fees is meant to align incentives between the investor and the intermediary, individual deal structures vary, meaning that success fees can account for a large, small, or non-existent part of the fee structure. This leaves open the possibility of intermediary risk, as intermediaries can be incentivized to generate deal volume rather than deal success.

The private equity model should significantly reduce intermediary risk by better aligning incentives between the intermediary and the investor. Fund managers usually earn money in three ways: 1) management fees, 2) co-investment earnings, and 3) carried interest. While management fees do play a role in the fee structure, the majority of earnings for the fund manager come from the co-investments and carried interest. Thus, fees are heavily skewed toward deal success rather than deal origination. This should help align incentives and mitigate much of the intermediary risk.

Government Non-Payment Risk: No obvious benefit from the private equity model.

Systemic Risk: No obvious benefit from the private equity model.

Intervention Model Risk: Similar to the way the private equity model could reduce the execution risk for SIBs, there is significant potential to leverage the pre-investment evaluation capabilities of impact investment fund managers to reduce intervention model risk. Impact investment fund managers have proven adept at achieving their desired financial and social impact objectives, indicating a strong ability to evaluate intervention models. In the current impact investment fund space, this translates into the evaluation of a business model based on its potential to both generate financial returns and achieve social impact. This differs little from the evaluation of a service provider model's potential to achieve social impact. Thus, by using the preexisting evaluation capacity, fund managers should be able to mitigate much of the intervention model risk in the SIB market.

Evaluation Risk: Given that independent third-party evaluations will continue to be necessary, there is no obvious benefit for evaluation risk in this model.

Liquidity Risk: While the private equity model does open the possibility of enhanced liquidity for investors, a significant reduction in liquidity risk would require a robust secondary market for fund shares. In the traditional private equity space, liquidity has been increased via publicly traded funds and the proliferation of fund-of-fund investment vehicles. While this is beginning to materialize in the impact investment space through the growth of social impact-focused government or quasi-government fund-of-funds, a liquid market is still in its infancy.

Reputation Risk: Since SIB contracts will be attached to the fund manager, rather than directly to the investor, reputation risk should be reduced for the investor. This assumes that the investor is not required to reveal their investments due to regulation or that the investor does not voluntarily reveal their investments.

Barriers to Scale

Transaction Costs: One of the most important benefits of the private equity model is that it can reduce transaction costs involved with SIBs. The model has already proven capable of lowering these costs for traditional private equity and social impact investment, helping to scale those markets significantly.

For the SIB market, the private equity fund structure can reduce transaction costs in four main ways. First, it reduces the amount of marketing and capital raising required by the intermediaries. Instead of having to match an investor and a project for every deal, the fund manager will only have to raise capital once. Second, by pooling projects into a fund, the fund manager should be able to more easily monitor and evaluate each SIB. It should be easier for intermediaries to benchmark across a portfolio and develop best practice techniques for operational management.

This would be particularly effective in funds that are dedicated to a specific location or social sector. Third, there would be no need to build the intermediary infrastructure from the ground up. Instead, fund managers can leverage their expertise in monitoring, evaluating, and providing strategic operational management to social impact interventions built through experience with the more mature social impact investment market. This would eliminate the growing pains and learning curve currently faced by the advisory intermediaries. Fourth, this structure would reduce the time and effort required for coordination between the various actors involved in the SIB. This would eliminate the need to include the investor in every contract negotiation, reducing the number of actors involved and the amount of time allocated for technical assistance advisory.

Availability of Capital: The private equity model should be effective in increasing the availability of capital for SIBs by attracting institutional investors. Currently, SIB investors tend to be high net-worth individuals or foundations. Institutional investors, which have by far the biggest share of investible capital, have largely been excluded from the SIB market because of the small deal size, unfamiliarity with intermediaries, and for the liability-constrained investors, fiduciary responsibility.

The private equity model substantially lowers these barriers to investment in several ways. First, by combining SIBs into a fund, institutional investors will be able to access investment opportunities large enough to justify the due diligence and performance management necessary for each investment. Second, institutional investors will be more comfortable with the intermediaries and financing mechanisms because they are familiar with the fund manager model. Currently, the market is made of up specialized, relatively young, advisor-style intermediaries. While high net-worth individuals and foundations are more comfortable in this

environment, institutional investors have no experience working with either the intermediary model or the current actors; given the financial first mandate for institutional investors, this has deterred many from investing in SIBs. By utilizing a familiar intermediary model with the potential for well-known and established actors to be involved, the market should be able to attract institutional investment.

While many regulators have yet to clarify whether impact investment is consistent with fiduciary responsibility, momentum is building. There is increasing recognition that impact investment funds are able to produce non-concessionary returns, as shown by the recent Wharton Social Impact Initiative and Cambridge Associates/Global Impact Investing Network studies. As the World Economic Forum points out: “In instances when there is no expected trade-off, certain liability-constrained investors are beginning to allocate capital to impact investments.” Given that institutional investors mainly access impact investment opportunities through investment funds, this indicates that institutional investors are becoming more comfortable with impact investment funds. By moving toward a private equity model, SIBs can leverage a model that is becoming accepted as being compatible with fiduciary responsibility.

It is important to recognize, however, that unless a robust secondary market for pay-for-performance funds is created, the private equity model risks making SIBs inaccessible to retail investors. This is because most funds require minimum investment requirements, which are generally too large for retail investors.

Deal Flow Availability: No obvious benefit from the private equity model.

Availability of Service Providers: No obvious benefit from the private equity model.

10. Recommendations for Investors and Policymakers to Help Scale the SIB Market

Given the analysis presented above, it is clear that in order to scale SIBs, the market must move from a market maker, advisory-style intermediary model to a fund manager intermediary model. This market would utilize the pre-existing impact investment private equity infrastructure, but would incorporate SIBs as a new investable asset class. While the development of this market will be largely organic and driven mainly by the success of early adopters such as Bridges Ventures, there are certain actions that both policymakers and investors can take to help spur its development. The following section will present a non-comprehensive list of recommended action steps.

How can investors/intermediaries help promote this model?

- ***Advance industry standards for measurement and reporting of SIB fund impact.*** Significant work has been done to create uniform measurement and reporting standards for impact investing funds through the development of the Global Impact Investing Ratings System (GIIRS). This is meant to help intermediaries and investors benchmark and monitor fund performance, evaluate investment opportunities, and reduce transaction costs involved with due diligence and marketing. While GIIRS has focused on the more traditional impact investing asset classes, if it were expanded to include SIB programs, service providers, and/or funds, it could help make SIBs a more easily targeted asset class for fund managers.
- ***Make financial returns and impact data transparent for SIB investments.*** While many intermediaries view their return data as proprietary, the lack of transparency will make it

difficult for investors to evaluate the risks and opportunities involved with investing in SIB funds. If first-mover fund managers were to report their social and financial returns transparently, “brand-name” intermediaries would be more likely to recommend or invest in SIB-focused funds, and institutional investors would be better able to compare, rank, and classify different fund managers. In the nascent stages of the SIB fund market, this transparency will be particularly important for the market to scale.

- ***Have “brand name” intermediaries develop, co-manage, or pool funds with impact investment fund managers.*** This will help to attract institutional investors and will bring strong financial expertise to the SIB fund market.
- ***Offer wide-ranging product types.*** It is important for SIB fund managers to offer a diverse range of investment opportunities, including funds that are categorized by asset class, geography, social sector, return target, and/or fund size. This will open the market to different types of investors with different constraints or investment goals. In addition, fund managers will be able to leverage the capabilities and expertise generated by focused fund types, thereby reducing some of the investor risks such as execution, intermediary, and intervention model risk.

How can policymakers help promote this model?

- ***Implement tax incentives to create favorable net returns for SIB fund investors.*** In 2014, the U.K. enacted the Social Investment Tax Relief (SITR). SITR provides a range of income and capital gains tax reliefs that can be claimed by individual investors for investments made in social enterprises with the goal of helping people and communities. According to the Cabinet Office guidance note, “Individuals making an eligible

investment can deduct 30% of the cost of their investment from their income tax liability, either for the tax year in which the investment is made or the previous tax year (if 2014/15 or later). The investment must be held for a minimum period of 3 years for the relief to be retained.” Importantly, investments in companies set up to carry out a SIB are eligible for SITR. A similar tax incentive in the U.S. could be instrumental in catalyzing a SIB fund market and helping it to establish proof of concept.

- ***Create funding mechanisms that add liquidity to the market, for example through a fund-of-fund structure.*** In the UK, the government helped establish Big Society Capital as an impact investing wholesaler, or a fund-of-funds that invests in socially focused intermediaries. While it is now operating independently, it was originally established through government-directed seed funding from dormant bank accounts in the UK. Big Society Capital has proven vital in supporting innovative social impact intermediaries and played a key role in the establishment of the Bridges Ventures Social Impact Bond Fund. This structure could play a similar role in the US, which could help establish a SIB fund market during its infancy.
- ***Take a subordinate position as a co-investor in SIB projects.*** In his FY17 budget, President Obama proposed a one-time mandatory appropriation of \$300 million for a new Pay for Success (PFS) fund within the Department of the Treasury. This would be used to help local and state governments provide funding for SIB projects. A similar allocation could be used to co-invest alongside SIB funds in certain qualified projects. This would be particularly useful if the government were to take a subordinate position in the payment structure, effectively reducing the financial risk to the fund manager.

- *Clarify fiduciary responsibility mandates for liability-constrained institutional investors to allow for investments in SIB funds.* This could significantly enhance the SIB fund market's access to capital and bring the oversight and expertise of sophisticated investors to the market.
- *Support a uniform measurement and evaluation system for SIB funds/service providers.* By officially endorsing a measurement and evaluation system, or even mandating that results be reported through a specific system, policymakers could enhance transparency and create uniformity in the market. Similar to the potential effects of the GIIRS, this could help intermediaries and investors benchmark and monitor fund performance, evaluate investment opportunities, and reduce transaction costs involved with due diligence and marketing.

General recommendations for policymakers to scale SIBs

- Improve data-sharing agreements between government agencies at the national and subnational level in order to reduce transaction costs, build expertise across governments, and facilitate efficient deal flow.
- Reduce government non-payment risks for SIBs through the creation of dedicated trusts or escrow accounts. This could be modeled after the Massachusetts Social Innovation Financing Trust, which was set up to ensure that investors get paid if a deal produces desired results even if the state's priorities change.
- Clarify or establish legal precedent for government non-payment and/or SIB contract disputes.

- Provide credit guarantees for qualified investments to mitigate potential losses of principal.
- Increase support and investment for capacity building on the state and local level in order to make potential outcome funders more comfortable working with SIBs.
- Provide research and fellowship to SIB-focused university programs to improve academic technical assistance.
- Create budgetary pre-commitments for SIB funding.

Appendix A: Standard Questions for Semi-Structured Interviews

Review of SIB Successes/Failures

- What are the requirements for success? What has proven to be successful so far?
- What are the limits to growth? What barriers/risks are slowing the growth and success of SIBs?
- How have other financial products managed similar risk profiles? (e.g., sovereign guarantees in FDI / sovereign guarantees in project finance, sovereign debt instruments, political risk insurance, arbitration/mediation)
- Are there inherent differences in the domestic/international markets for SIBs? If so, what makes them different and how can we work around the differences to standardize the products?
- How have we judged success thus far? Has perception of failure been due to skewed expectations or real failure to achieve social impact?

Lessons Learned for Issuers/Investors and Policy Recommendations for Policymakers

- How can policymakers structure the regulatory environment to best protect investors and recipient governments, as well as to promote the development of the SIB market?
- How can the products be structured to minimize risks and improve performance? How can incentives be aligned in a sustainable way?
- How can issuers maximize performance and reduce risks involved?

Next Steps for Standardization

- What areas and programs (e.g., recidivism, school enrollment, visiting prenatal care nursing, energy incentives, etc.) have the greatest amount of evidence for success (and therefore lower risk for return)?
- What areas and programs have the lowest implementation costs with regard to human capital and expertise (complexity of the intervention)?
- What areas and programs use the most similar metrics for success across multiple contracts?
- What is the role technology can play in increasing standardization and decreasing transaction costs?
- What transactional barriers represent the greatest limitations to scale?
- How have other “bundled” financial products been structured in a way that minimizes transaction costs and enhances operational efficiency?

Questions for financial firms

- How have financial intermediaries and/or investment firms been able to effectively evaluate and monitor a complex network of projects in an investment fund? In your experience, what strategies have proven effective/ineffective?

- How do firms scale up their investment portfolios in open/close-ended funds? Do you think these strategies could be used for a SIB/DIB fund?
- In the context of the work that you do, and given your understanding of SIBs/DIBs, do you think that financial intermediaries/investment firms could build the capacity to effectively evaluate, monitor, and actively manage SIB/DIB funds? What would make these funds different from pre-existing investment fund models? Where could there be overlap or synergies?